

Abstract of the Disclosure

BIARMATURE SOLENOID

5                   A solenoid includes first and second armatures disposed on either  
side of a solenoid core. The core includes first and second sets of legs disposed  
on opposite sides of a central member. A drive circuit provides a first current  
level to cause flux to flow in a first path through the core and thereby move the  
first armature without substantially moving the second armature. The drive  
10   circuit can provide a second current level greater than the first current level to  
saturate the first path and thereby redirect flux into a second core path to move  
the second armature.

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LIST OF ELEMENTS

File: 96-451

5	10	Fuel system
	12	Cylinder
	14	Cylinder head
	16	Injector bore
	18	Fuel passage
10	20	Fuel injector
	22	Fuel supplying apparatus
	24	Fuel pressurization apparatus
	26	Electronic controlling apparatus
	28	Fuel tank
15	30	Fuel supply passage
	32	Transfer pump
	34	Fuel filter
	36	Fuel drain passage
	50	Tappet and plunger assembly
20	52	Cam lobe
	54	Cam shaft
	64	Rocker arm assembly
	66	ECM
	74	Case
25	76	Nozzle portion
	78	Electrical actuator
	80	Spill valve
	81	Spill valve spring
	82	Plunger
30	83	Plunger cavity

	84	Check
	86	Check spring
	88	Direct operated check valve
	100	Solenoid
5	102	Stator
	104	Central member
	106a	1 <sup>st</sup> set of legs
	106b	2 <sup>nd</sup> set of legs
	108	First armature
10	109	Intermediate member
	110	Second armature
	111	Carrier
	112	1 <sup>st</sup> magnetic circuit
	114	2 <sup>nd</sup> magnetic circuit
15	116	Solenoid coil
	118	Drive circuit
	120	Conduit
	122	Waveform
	124	2 <sup>nd</sup> Waveform
20	128	Spill valve sealing surface
	130	Spill valve seat
	134	Upper DOC sealing surface
	136	Upper DOC valve seat
	138	Lower DOC sealing surface
25	140	Lower DOC valve seat
	142	Plunger passage
	143	Drain passage
	144	2 <sup>nd</sup> Drain passage
	146	High pressure fuel passage
30	147	High pressure fuel DOC passage

- 148 Check end passage
- 150 3<sup>rd</sup> Drain passage

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